



US006269392B1

(12) **United States Patent**
Cotichini et al.

(10) Patent No.: **US 6,269,392 B1**
(45) Date of Patent: ***Jul. 31, 2001**

(54) **METHOD AND APPARATUS TO MONITOR AND LOCATE AN ELECTRONIC DEVICE USING A SECURED INTELLIGENT AGENT**

(76) Inventors: Christian Cotichini, 1188 Richards St. PH#6, Vancouver BC (CA), V6H 3B6; Fraser Cain, 3727-B, St. George St., Vancouver BC (CA); David G. Ashworth, 3810 Regent Avenue, North Vancouver British Columbia (CA), V7N 2C4; Peter Michael Bruce Livingston, 19318 118 B Avenue, Pitt Meadows British Columbia (CA), V3Y 2P7; Gabor Solymar, 35 Whalings Circle, Stittsville Ontario (CA), K2S 1S4; Philip B. Gardner, 1955 W. 33rd Ave. #109, Vancouver BC (CA), V6J 4A5; Timothy S. Woinoski, #206-2978 Burlington Dr., Coquitlam BC (CA), V3B 7N4

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **08/871,221**

(22) Filed: **Jun. 9, 1997**

Related U.S. Application Data

(63) Continuation-in-part of application No. 08/799,401, filed on Feb. 11, 1997, now Pat. No. 5,802,280, and a continuation-in-part of application No. 08/826,098, filed on Mar. 24, 1997, which is a continuation-in-part of application No. 08/558,432, filed on Nov. 15, 1995, now Pat. No. 5,764,892, which is a continuation-in-part of application No. 08/339,978, filed on Nov. 15, 1994.

(51) Int. Cl.⁷ **G06F 3/00**

(52) U.S. Cl. **709/200; 709/229**

(58) Field of Search **709/214, 202, 709/229, 200; 340/905**

(56)

References Cited

U.S. PATENT DOCUMENTS

3,925,763	12/1975	Wadhvani .
4,818,998	4/1989	Aspell et al. 342/444
4,819,053	4/1989	Halavais 342/353
4,908,629	3/1990	Aspell et al. 342/457

(List continued on next page.)

FOREIGN PATENT DOCUMENTS

0588519	8/1993	(EP) .
0 588 519	3/1994	(EP) .
96/03728	2/1996	(WO) .
96/15485	5/1996	(WO) .

Primary Examiner—Robert B. Harrell

Assistant Examiner—Thong Vu

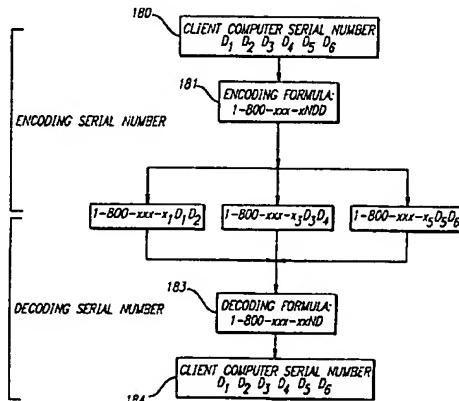
(74) *Attorney, Agent, or Firm*—Liu & Liu LLP

(57)

ABSTRACT

A system for locating and monitoring electronic devices utilizing a security system that is secretly and transparently embedded within the software, firmware, or hardware of the electronic device. The security system may be embodied in internal memory devices such as ROM BIOS, ROM, Flash ROM, EPROM, EEPROM, electronic components such as modem, CPU, or hardwired circuits or integrated circuits of a computer. This security system initiates the computer to periodically and conditionally call a host system to provide unique identifying indicia and location information. In one embodiment, the security system calls the host through a public switched telephone network (PSTN) and transmits the indicia in encoded form. In an alternative embodiment, which may be incorporated concurrently with the PSTN application, the security system calls the host system through the Internet and provides the host with indicia encoded within the DNS query sent. The host system is able to identify the calling computer from the indicia and is able to physically locate the computer through either caller identification or by referencing the Internet links which were used to connect the calling computer with the host system.

47 Claims, 24 Drawing Sheets



U.S. PATENT DOCUMENTS

4,999,621	*	3/1991	Loeb .		5,771,484	*	6/1998	Tognazzini	701/117
5,077,788		12/1991	Cook et al. .		5,778,367	*	7/1998	Wesinger, Jr. et al.	707/10
5,218,367		6/1993	Sheffer et al. .		5,783,989	*	7/1998	Issa et al.	340/426
5,511,109		4/1996	Hartley et al. .		5,802,280	*	9/1998	Cotichini et al.	709/200
5,566,339		10/1996	Perholtz .		5,818,335	*	10/1998	Rinsch et al.	340/539
5,576,716	*	11/1996	Sadler	342/357	5,826,025	*	10/1998	Gramlich	395/200.47
5,602,739	*	2/1997	Haagenstad et al.	701/117	5,835,087	*	11/1998	Herz et al.	345/327
5,635,924	*	6/1997	Tran et al.	340/905	5,835,896	*	11/1998	Fisher et al.	705/37
5,655,081	*	8/1997	Bonnell et al.	709/202	5,838,916	*	11/1998	Domenikos et al.	395/200.49
5,708,417	*	1/1998	Tallman et al.	340/539	5,848,373	*	12/1998	DeLorme et al.	701/200
5,715,174	*	2/1998	Cotichini et al.	709/229	5,848,413	*	12/1998	Wolff	707/10
5,748,084	*	5/1998	Isikoff	340/568.1	5,877,969	*	3/1999	Gerber	364/562

* cited by examiner